SOUTHWEST FISHERIES SCIENCE CENTER
FIRST QUARTER REPORT-FY 2002
For the Period October 1 - December 31, 2001

Submitted by: John Hunter, Division Director, Fisheries Resources Division

Title of Accomplishment: Completion of manuscript on age-validated leopard shark recaptured after 20 yrs.

Current Status: Completed 12/01; manuscript submitted to Center Director for approval.

Background Information: Tagging and recapture of fish whose calcified structures have been marked with the bone-labeling fluorophor, oxytetracycline, offers a simple and conclusive method for establishing the timing of growth zone formation in these structures. With sharks, tetracycline marking is especially preferred over alternate methods of age validation because of their slow and highly variable growth patterns, and because calcified bands in their aging structures (e.g., vertebral centra) are often very difficult to interpret. Additionally, unlike teleosts, periodicity of band deposition in aging structures has been validated for only a few shark species, and few fish in general have had ages validated over the full range of age classes, as recommended by Beamish and McFarlane (1983).

Purpose of Activity: To document full age validation and long-term annual ring deposition in a shark species.

Description of Accomplishment and Significant Results: This paper describes age-validation for a tagged leopard shark at liberty for 20 years, the longest years at liberty for any age-validated shark, and growth for another individual at liberty 21.8 years. It documents completion of age validation for this species through all age classes.

Significance of Accomplishment: This represents the first complete age validation for any elasmobranch species. It also provides new information on OTC deposition and sensitivity to light, interannual variability in observed vertebral growth, and information on peripheral band deposition, which should prove useful to other researchers conducting fish age, growth and validation studies.

Problems: None

Contact: Susan Smith (858-546-7070)